Central™
Semiconductor Corp.

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Manufacturer of World Class Discrete Semiconductors
www.centralsemi.com

2N6530
2N6531
2N6532
2N6533

NPN POWER TRANSISTOR

TO-220 CASE

DESCRIPTION:
The CENTRAL SEMICONDUCTOR 2N6530 Series are NPN silicon Darlington transistors designed for power applications requiring extremely high gain.

MAXIMUM RATINGS: (T_C=25°C unless otherwise noted)

	SYMBOL	2N6530	2N6531	2N6532	2N6533	UNITS
Collector-Base Voltage	V_{CBO}	80	100	100	120	V
Collector-Emitter Voltage	V_{CER}	80	100	100	120	V
Collector-Emitter Voltage	V_{CEV}	80	100	100	120	V
Collector-Emitter Voltage	V_{CEO}	80	100	100	120	V
Emitter-Base Voltage	V_{EBO}		5.0			V
Continuous Collector Current	I_C		8.0			A
Peak Collector Current	I_{CM}		15			A
Power Dissipation	P_D		65			W
Operating and Storage Junction Temperature	T_J,T_{stg}		-65 to +150			°C
Thermal Resistance	Θ_{JC}		1.92			°C/W

ELECTRICAL CHARACTERISTICS: (T_C=25°C unless otherwise noted)

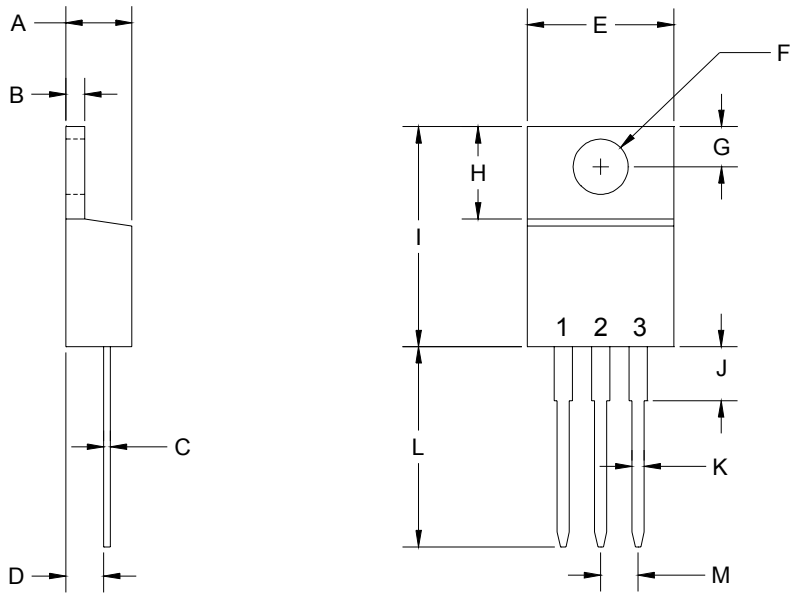
		2N6530		2N6531		2N6532		2N6533		
SYMBOL	TEST CONDITIONS	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	UNITS
I_{CEO}	V_{CE}=Rated V_{CEO}		1.0		1.0		1.0		1.0	mA
I_{CEV}	V_{CE}=Rated V_{CEV}, V_{EB}=1.5V		0.5		0.5		0.5		0.5	mA
I_{CEV}	V_{CE}=Rated V_{CEV}, V_{EB}=5.0V, T_C=125°C		5.0		5.0		5.0		5.0	mA
I_{EBO}	V_{EB}=5.0V		5.0		5.0		5.0		5.0	mA
BV_{CER}	I_C=200mA, R_{BE}=100Ω	80		100		100		120		V
BV_{CEO}	I_C=200mA	80		100		100		120		V
BV_{CEV}	I_C=200mA, V_{EB}=1.5V	80		100		100		120		V
$V_{CE(SAT)}$	I_C=3.0A, I_B=6.0mA				3.0				2.0	V
$V_{CE(SAT)}$	I_C=5.0A, I_B=10mA		2.0				2.0			V
$V_{CE(SAT)}$	I_C=8.0A, I_B=80mA		3.0		3.0		3.0		3.0	V
$V_{BE(ON)}$	V_{CE}=3.0V, I_C=3.0A				2.8				2.8	V
$V_{BE(ON)}$	V_{CE}=3.0V, I_C=5.0A		2.8				2.8			V
$V_{BE(ON)}$	V_{CE}=3.0V, I_C=8.0A		4.5		4.5		4.5		4.5	V

(CONTINUED ON REVERSE SIDE)

ELECTRICAL CHARACTERISTICS (Continued)

SYMBOL	TEST CONDITIONS	2N6530 MIN	2N6530 MAX	2N6531 MIN	2N6531 MAX	2N6532 MIN	2N6532 MAX	2N6533 MIN	2N6533 MAX	UNITS
h_{FE}	V_{CE}=3.0V, I_C=3.0A			500	10K			1K	10K	
h_{FE}	V_{CE}=3.0V, I_C=5.0A	1K	10K			1K	10K			
h_{FE}	V_{CE}=3.0V, I_C=8.0A	100	5K	100	5K	100	5K	100	5K	
V_F	I_C=10A		2.8		2.8		2.8		2.8	V
h_{fe}	V_{CE}=5.0V, I_C=1.0A, f=1.0kHz	1K		1K		1K		1K		
$\|h_{fe}\|$	V_{CE}=5.0V, I_C=1.0A, f=1.0MHz	20		20		20		20		
C_{ob}	V_{CB}=10V, I_E=0, f=1.0MHz		200		200		200		200	pF
$I_{S/b}$	V_{CE}=24V, t=0.5s nonrep.	2.7		2.7		2.7		2.7		A
$E_{S/b}$	V_{EB}=1.5V, I_C=4.5A, R_{BE}=100Ω, L=12mH	120		120		120		120		mJ

JEDEC TO-220 CASE - MECHANICAL OUTLINE



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.176	0.190	4.48	4.82
B	0.045	0.055	1.15	1.39
C	0.014	0.026	0.35	0.65
D	0.083	0.106	2.10	2.70
E	0.394	0.417	10.01	10.60
F (DIA)	0.140	0.157	3.55	4.00
G	0.100	0.118	2.54	3.00
H	0.230	0.270	5.85	6.85
I	0.560	0.625	14.23	15.87
J	-	0.250	-	6.35
K	0.025	0.038	0.64	0.96
L	0.500	0.579	12.70	14.70
M	0.090	0.110	2.29	2.79

TO-220 (REV: R1)

R1

Lead Code:

1) Base
2) Collector
3) Emitter

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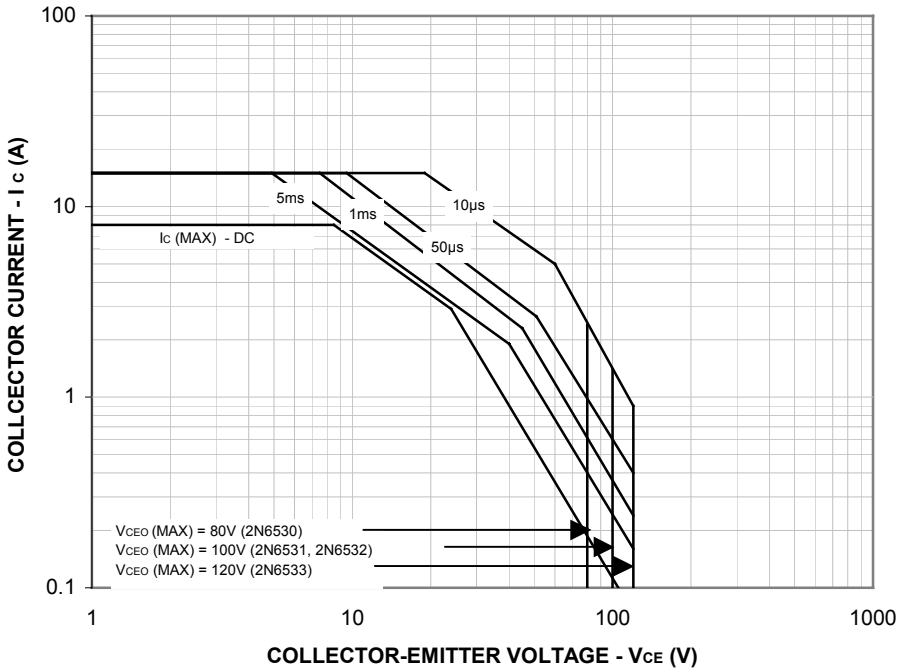
SAFE OPERATING AREA (T_C=25°C)



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